

CHARLOTTE – Charlotte/Douglas International (CLT)



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Benchmark Results

- The current capacity benchmark rate for Charlotte/Douglas International Airport is 130-131 flights per hour (arrivals and departures) in Optimum weather, when visual approaches can be conducted.
- According to the runway configuration data, CLT uses the parallel runways 36L and 36R for arrivals and departures 46 percent of the time under good weather conditions. However, the CLT facility reports that typical arrival and departure rates are higher when using Runways 18L, 18R, and 23. Therefore, the benchmark capacity was modeled using this three-runway configuration.
- Under Optimum and Marginal conditions, CLT imposes radar separation at the outer marker while maintaining visual separation at the threshold.
- The benchmark rate in Marginal conditions is 125-131 flights per hour, and falls to 102-110 flights per hour in IFR conditions for the most commonly used runway configuration in these conditions.
- Note that these benchmarks do not always represent balanced operations – there may be more arrivals than departures. If the facility reported rates are significantly unbalanced (i.e., unequal numbers of arrivals and departures), the benchmark rates will be unbalanced as well. The facility reported rates reflect current operations at the airport during a busy hour, but such unbalanced rates cannot be sustained for extended periods.
- The benefit of the planned technological improvements at CLT in Marginal conditions assumes that all arrivals can use CEFR to maintain visual separations, thus allowing the airport to realize greater arrival capacity in Marginal conditions.
- A new runway is being planned for CLT, but planning was not sufficiently advanced to include this runway in OEP v5.0. Therefore, this new runway was not included in this analysis.
- The following charts compare actual hourly traffic with the calculated capacity curves for CLT.

These values were calculated for the Capacity Benchmarking task and should not be used for other purposes, particularly if more detailed analyses have been performed for the airport or for the individual programs.

The list of Planned Improvements and their expected effects on capacity does not imply FAA commitment to or approval of any item on the list.

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| Weather | Scenario | Configuration | Procedures | Benchmark Rate (per hour) |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------|------------------------------------------------------------------------------------------------------------------|-----------------------------------------------|--------------------------------------|
| Optimum Rate Ceiling and visibility above minima for visual approaches (3600 ft ceiling and 5 mi visibility) <i>Occurrence: 82%</i> | Today | Arrivals on Runways 23, 18R Departures on 18L, 18R <i>Frequency of Use: 44% in optimum conditions</i> | Visual approaches, radar separation | 130-131 |
| | New Runway | N/A | | N/A |
| | Planned improvements (2013) | Same | | 131 |
| Marginal Rate Below visual approach minima but better than instrument conditions <i>Occurrence: 9%</i> | Today | Arrivals on Runways 23, 18R Departures on 18L, 18R <i>Frequency of Use: 51% in marginal conditions</i> | Instrument approaches, radar separation | 125-131 |
| | New Runway | N/A | | N/A |
| | Planned improvements (2013) | Same | Visual approaches, visual separation | 131 |
| IFR Rate Instrument conditions (ceiling < 1000 ft or visibility < 3.0 miles) <i>Occurrence: 9%</i> | Today | Arrivals on Runways 36L, 36R Departures on 36L, 36R <i>Frequency of Use: 64% in IFR conditions</i> | Instrument approaches, radar separation | 102-110 |
| | New Runway | N/A | | N/A |
| | Planned improvements (2013) | Same | | 102 |

NOTE: Data on frequency of occurrence of weather and runway configuration usage is based on FAA ASPM data for January 2000 to July 2002 (excluding 11-14 September 2001), 7 AM to 10 PM local time.

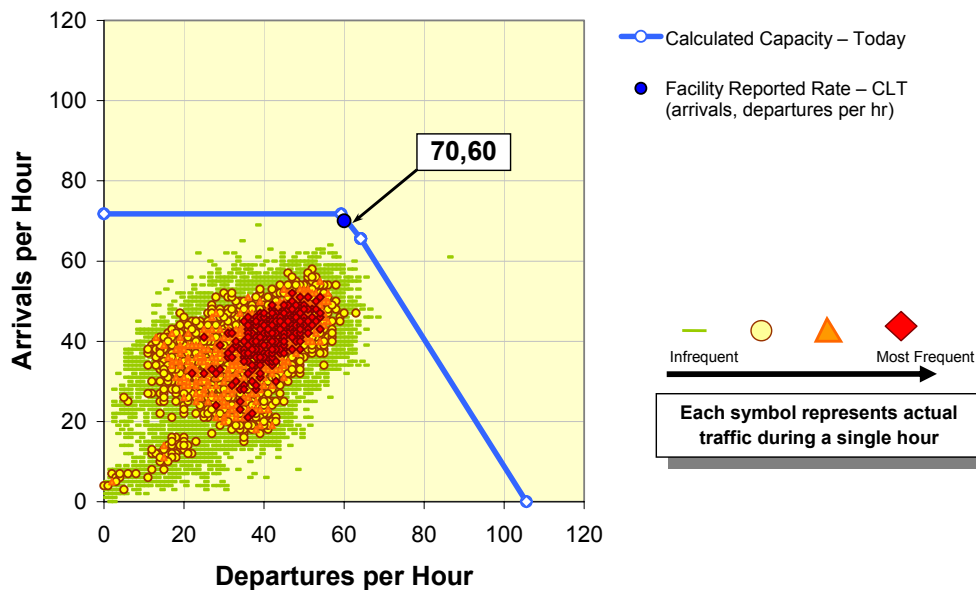
Planned Improvements at CLT include:

- CEFR, for reduced in-trail separations between arrivals in Marginal conditions.
- A third parallel runway has been proposed for CLT; however it has not yet been approved by the FAA, and thus is not included in this benchmark report.

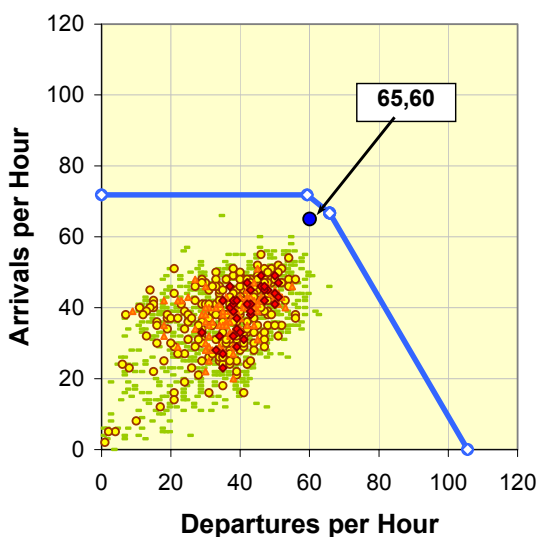
Additional information on these improvements may be found in the Introduction and Overview of this report, under “Assumptions.”

Calculated Capacity (Today) and Actual Throughput

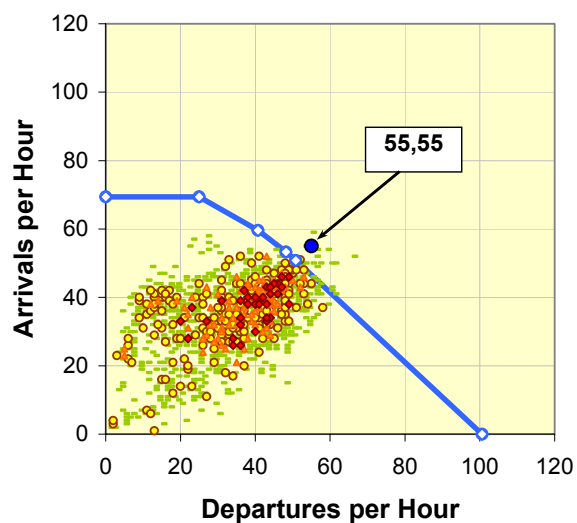
Optimum Rate



Marginal Rate



IFR Rate



Hourly traffic data was obtained from the FAA ASPM database for January 2000 to July 2002 (excluding 11-14 September 2001), 7 AM to 10 PM local time. Facility reported rates were provided by ATC personnel at CLT.